

Antidegradation Update



When will this take effect?

- Became effective 2-17-2010 in state rules
- Submitted to EPA in May 2010 for approval
- Still awaiting action from EPA
- Not anymore!!! **Approved 9/30/10**

Water Quality Standards

- Defines water quality goals of a water body
- This is accomplished by:
 - Designating the use or uses of the water (aquatic, recreational, etc.)
 - Setting criteria necessary to protect the uses
 - Preventing degradation of water quality

Degradation defined

- A decline in the chemical, physical, or biological conditions of a surface water as measured on a pollutant-by-pollutant basis
- Increase in any pollutant concentration or mass loading
- Focus on “Pollutants of Concern”

What is Antidegradation?

- Antidegradation refers to federal regulations designed to maintain and protect existing water quality and high quality waters from unnecessary pollution

Origins

- Basic policy was est. in 1968 by U.S. Dept. of the Interior
- Promulgated in CFR in 1983
 - 40 CFR 131.12
- No explicit requirement for antidegradation in CWA
 - Consistent with spirit and intent of the act
 - " ...restore and maintain the chemical, physical and biological integrity of the Nation's waters"

Applicability

- Antidegradation applies to any permitting action regarding a regulated discharge of a new or increased amount of a pollutant of concern

Tiers of Anti-deg

- Tier 1 – Maintain uses
 - Can increase pollutant concentration up to the WQS
- Tier 2 – Maintain existing quality
 - Higher quality waters
 - Concentration of pollutants are substantially below the water quality limit needed to protect the use

- Tier 2 ½ – Outstanding Iowa Waters
 - Unique Waters
 - Degradation allowed only under very limited conditions
- Tier 3 – Outstanding National Resource Waters
 - Unique Waters
 - Degradation allowed only under very limited conditions

Tiers of Anti-deg

- Tier 2
 - Try to protect existing higher quality condition
 - Degradation allowed only if it is “necessary to accommodate important economic or social development”
 - No reasonable alternative to degradation
 - Noteworthy social or economical benefits
 - Existing uses are protected

Tier 2 Example:

Stream: Otter Creek

Class: B(WW-2)

Parameter: Zinc

Criteria to protect
aquatic life: **1.2 mg/l**

Ambient condition: **0.5 mg/l**

**Water quality is better
than necessary to
protect use**

10/13/2010

Ambient = 0.5 mg/l →

Goal criteria = 1.2 mg/l

NPDES Discharge = ? mg/l

An aerial photograph of a stream with a discharge point. The stream flows from the top left towards the bottom right. The water is dark brown, indicating turbidity. The banks are covered in green grass and some small plants. A white arrow points to the ambient water in the upper left. Another white arrow points to a discharge point in the lower right, where the water is lighter and more turbulent. The text 'NPDES Discharge = ? mg/l' is written in white next to this arrow.

Tiers of Anti-deg

- Tier 2 ½ - Outstanding Iowa Waters
 - Some waters may not have national significance, but are outstanding within Iowa
 - Water body by water body approach
 - This tier affords more protection than Tier 2
 - Allows some flexibility not afforded in Tier 3

Tiers of Anti-deg

- Tier 3 – Outstanding National Resource Waters
 - Quality must be maintained, degradation prohibited unless temporary and limited
 - Examples:
 - Waters of exceptional recreational or ecological importance
 - National Parks, State Parks, Wildlife Refuges
 - None are proposed in these rules
 - Nomination procedures

Antideg and NPDES permit amendments and renewals

Where antideg applies:

- any request for less stringent permit limits (e.g., based on new WQS, mixing zone study, revised design flows, increased production, change outfall location)
- any request incorporating new pollutants of concern (e.g., new metal finisher treatment agreement, change in chemical additives if a new POC)
- change in waste stream (new POC added)

Antideg and NPDES permit amendments and renewals

Where antideg does not apply:

- compliance schedule date adjustments
- permittee name change
- change in monitoring requirements
- increased loadings to a treatment facility for pollutants that they are designed to treat and that are within the design capacity of that facility (e.g. increase organic loading from an industry)
- Change in chemical additives if no new POCs

Antideg and Construction Permits

Where antideg applies:

- any increase in design capacity including ADW and AWW Flows, 30-day TSS, 30-day BOD, and 30-day TKN
- any change in design that will result in less stringent NPDES permit limits
- new dischargers with POCs that require a construction permit

Antideg and Construction Permits

Where antideg does not apply:

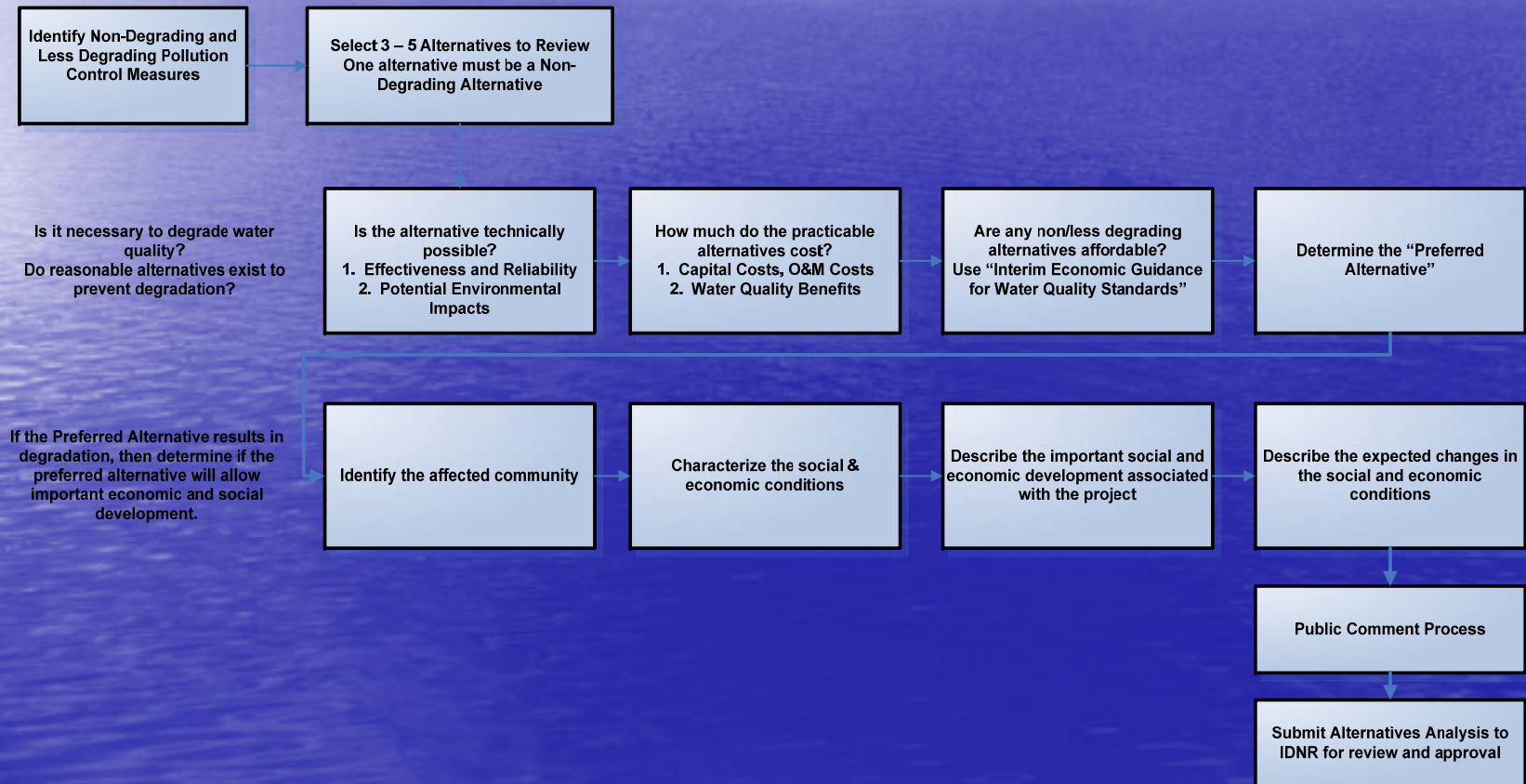
- any decrease in design capacity and equally or more stringent NPDES permit limits for any pollutant of concern
- unsewered communities
- CSO improvements

Alternatives Analysis

- Non-Degrading and Less Degrading Pollution Control Measures
 - Land application
 - Subsurface irrigation
 - Waste transport
 - Groundwater recharge
 - Improvements in the collection system
 - Recycling or reuse
 - Discharge to a regional wastewater collection and treatment system
 - Seasonal or controlled discharges to avoid critical water quality periods

Alternatives Analysis

Alternatives Analysis



Hot Button Issue

- Performance Based Permit Limits
- Example: ABC Facility discharges NH₃ at 0.5 mg/l well below its 10 mg/l limit. Performance based limits would change the limit from 10 mg/l to closer to 0.5 mg/l.
- The department does not currently support this approach



Questions?